

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 05-243908  
(43)Date of publication of application : 21.09.1993

(51)Int.CI.

H03H 17/02

(21)Application number : 03-322778

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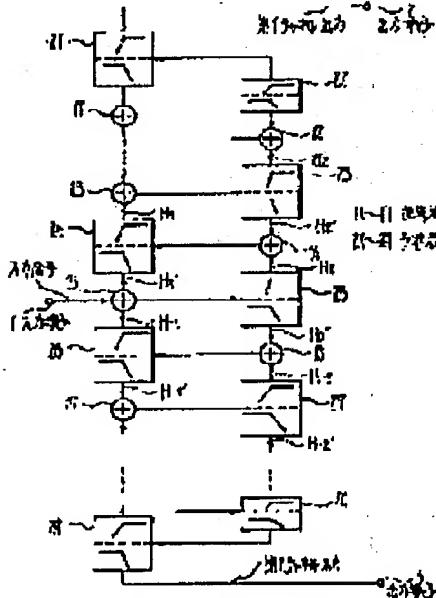
(22)Date of filing : 06.12.1991

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### (54) FILTER

#### (57)Abstract:

**PURPOSE:** To recover energy from a signal rejected in the past as well so as to utilize effectively an input signal, and to improve the signal-to-noise ratio of an output signal by connecting unit filters into a multiple stage in a manner that a signal is fed back in a cascade. **CONSTITUTION:** After the input signal from an input terminal 1 passes through an adder 15, its feedback signal  $H_n$  ( $n$  is 0 and integer) of a signal within a desired signal band is led to an output terminal 2 through a filter 25, the adder 14, the filter 24, the adder 13... the filter 21 at a first channel side. Besides, a feedback signal  $H'_n$  of the first channel side is supplied to the adder 15, namely, it is supplied to a one-stage preceding filter. On the other hand, at a second channel side, after it passes through the adder 15, the feedback signal  $H'^{-n}$  is led to the output terminal 3 through the filter 25, the adder 16, the filter 26, the adder 17... the filter 21.



#### LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]